RZADKOWSKI, Witold

Scientific information, its scope and forms of propagation.
Przegl wlokien 16 no.9:489-490 S '62.

RZADKOWSKI, W.

The regulation of wages in the cotton industry. p. 473.
(Przemysl Wlokienniczy, Vol. 10, No. 10, Oct. 1956, Krakow, Poland)

SO: Monthly List of East European Accessions(EEAL) Lc. Vol. 6, No. 8, Aug. 1957. Uncl.

RZADKOWSKI, W.

Calculation of the work standard of the mechanical loom.

p. 257
Vol. 9, no. 6, Aug. 1955
PRZEMYSL WLOKIENNICZY
Lodz

SO: Monthly List of East European Accessions (EEAL), LC, Vol. 5, no. 3
March 1956

KULIYEV, S.M.; APTINOV, M.A.; BEKULIYEV, A.M.

Influence of the temperature variations of the environment on the adhesion of cement to a string. Izv. AN Azerb. SSR. Ser. geol.-geog. nauk no.4:57-65 '64. (MIRA 17:12)

KULIYEV, S.M.; MAMEDOV, N.N.; RZAKULIYEV, A.M.; MDIVANI, A.G.

Efficiency of turbine and rotary drilling in the Kyanizadag area. Azerb.neft.khoz. 41 no.8:12-14 Ag '62. (MIRA 16:1)
(Azerbaijan—Oil well drilling)

RZAKULIYEV, I.M.

Effect of irrigation and waste gumbrin on the yield of saffron. (MIRA 13:6)
Uch.zap.AGU.Biol.ser. no.2:3-16 '59.
(SAFFRON)
(PETROLEUM INDUSTRY--BY-PRODUCTS)

RZAKULIYEV, I.M.

Effect of irrigation on saffron yields [in Azerbaijani with summary in Russian]. Uch. zap. AGU no.9:83-90 '56. (MLRA 10:4)
(Apsheron Peninsula--Saffron) (Irrigation farming)

RZAKULIYEV, I.M.

Effect of irrigation and mineral organic fertilizers on the yield of saffron. Uch.zap. AGU Biol.ser. no.1:3-8 '59.
(MIRA 13:7)

(SAFFRON)

RZAKULIYEV, I.M.

Studying different specimens of saffron in Apsheron. Uch. zap. AGU. Biol. ser. no.5:3-8 '59. (MIRA 15:5)
(APSHERON PENINSULA--SAFFRON)

RZANIAK, Mieczyslaw, mgr inz.

Protection against carrying out dangerous potential from electric power stations by cables. Wiad elektrotechn 32 no.7:194-195 Jl '64.

1. Energoprojekt, Poznan.

RZANIAK, MIECZYSLAW, [illegible] inz.

Ventilation of indoor accomodations in electric power stations.
Energetyka Pol 18 no. 8:243-246 Ag '64.

RZANIAK, Mieczyslaw, mgr inz.

Dynamic stresses of the rails in electric power installations.
Wiad elektrotechn 32 no.2:49-51 F '65.

1. Energoprojekt, Poznan.

[illegible], Mieczysław

Need of constructing medium voltage transformers with reduced losses. Wiad elektrotechn 33 no.12:363-364 D '64.

1. Energoprojekt, Poznan.

RZANIAK, Mieczyslaw, Mgr inz.

Transfer of dangerous potentials beyond high-voltage power stations. Energetyka Pol 18 no.4:111-114 Ap'64

RZANIAK, Mieczyslaw, mgr inz.

Grounding in electric stations with large ground fault currents.
Energetyka Pol 17 no.5:144-149 My '63.

1. Energoprojekt, Poznan.

JACKIEWICZ, Jozef, mgr inz.; RZANIAK, Mieczyslaw, mgr inz.

Determination of the economically proper number of transformer substations for a city. Energetyka Pol 17 no.9:269-273 S '63.

SUBJECT USSR / PHYSICS
AUTHOR RZANOV,A.V., NEIZVESTNYJ,I.G., ROSLJAKOV,V.V.
TITLE Investigations of Surface Conductivity and Surface Recombination in Germanium Samples.
PERIODICAL Zurn.techn.fis, 26, fasc.10, 2142-2153 (1956)
Issued: 15.11.1956

The present work deals with the results obtained by investigations carried out in the course of a gas cycle.

Experimental methods and results: The velocity of surface recombination was determined by measuring the time constant of the damping of the excess conductivity. The time constant τ and the "life in space" of τ_o were measured by means of a bridge circuit, and the conductivity of the samples by means of the compensation method. The investigations mentioned in the above title were carried out under the same conditions and with the same samples. The surface of the germanium samples under investigation was treated by pickling in concentrated H_2O_2 with an admixture of brine and by pickling in a pickling fluid containing hydrogen fluoride. Measuring results are shown by several diagrams and may be summarized as follows: The character of the modification of surface conductivity during the gas cycle in the case of samples with a specific resistance of 6-7 ohm.cm does not depend on the type of the conductivity of the sample and is determined solely by the manner in which the surface is treated. In the case of low-resistance samples the opposite is the case. The character of the modification of the velocity of surface recombination is the same in the case

of all investigated samples with electronic and hole-like conductivity and depends only on the manner in which the surface is treated. Differences in the character of the modification of surface properties during a gas cycle depend on the nature of surface treatment. Measuring the conductivity of samples with electronic and hole-like conductivity at different positive temperatures produced the following result: If temperature increases the character of the modification of conductivity during the gas cycle in the case of samples treated with a pickling fluid containing hydrogen fluoride remains the same, but it changes in the case of samples pickled with H_2O_2. There follows a discussion of these results.

INSTITUTION: Physical Institute "P.N.LEBEDEV" of the Academy of Science in the USSR.

RZANY, H.; SCIENSINSKI, J.

Scattering of slow neutrons by liquid H_2S. Inst fiz jadr report no.213:1-5 0 '62.

1. Instytut Fizyki Jadrowej, Krakow.

POLAND/Atomic and Molecular Physics - Physics of the Molecule

Abs Jour: Ref Zhur - Fizike, No 10, 1958, No 22549

Author : Budzanowski A., Grotowski K., Janik J. A., Kolos W., Maniawski F., Rzany H., Szkatula A., Wanic A.

Title : Estimation of the Height of the Potential Barrier of Hindered Rotation in the CH_3SH Molecule by Means of Thermal Neutron Scattering.

Orig Pub : Acta phys. polon., 1957, 16, No 5, 335-342

Abstract : No abstract

Card 1/1

TUBBS, N.; SAGAN, U.; RZANY, H.; JANIK, J.A.; JANIK, J. (Mrs.)

The total scattering cross section of slow neutrons in gaseous H_2S. Acta physica Pol 22 no.6:517-520 D '62.

1. Institute of Nuclear Physics, Krakow.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530008-0"

P/046/60/005/007-8/007/007
A224/A026

26.2242

AUTHORS: Janik, Jerzy A.; Janik, Janina; Krašnicki, Szczesny; Maniawski, Franciszek; Murasik, Andrzej; Rzany, Henryk; Sykatula, [illegible]; Sciesinski, Jan; and Wanic, Adam

TITLE: On the Scattering of Thermal Neutrons in the Hydrogen-Containing Molecules

PERIODICAL: Nukleonika, 1960, Vol. 5, No. 7-8, pp. 495-500

TEXT: This paper, written in German was presented at the reactor conference of Socialist Countries, convened at Rossendorf on June 13 to 18, 1960. Experiments on the scattering of thermal neutrons in the hydrogen-containing molecules have been conducted by the Cracow Center of Nuclear Physics. Results obtained with C_2H_4, NH_3 and H_2O molecules are given in three graphs. They prove the Krieger-Nelkin theory on neutron scattering by molecules in molecular gases. Experiments with gaseous CH_3SH are being carried out with the application of a slow-neutron chopper at the EWA reactor in Swierk. There are 4 figures and 6 references: 4 Polish and 2 English.

ASSOCIATION: Polish Academy of Sciences, Institute of Nuclear Research, Warsaw, Neutron Laboratory of the Cracow Center of Nuclear Physics

SUBMITTED: May 9, 1960

Card 1/1

TUBBS, N.; SAGAN, U.; RZANY, H.; JANIK, J.A.; JANIK, J.

The total scattering cross section of slow neutrons in gaseous H_2S. Inst fiz jadr report no.160:1-6 Jl '62.

1. Exeter College, Oxford (for Tubbs). 2. Instytut Fizyki Jadrowej Krakow (for all except Tubbs).

JANIK, J.A.; RZANY, H.; SCIESINSKI, J.

Scattering of slow neutrons by NH_3 molecules. Pt. 2. Scattering by liquid NH_3. Inst fiz jadr report no.214:1-5 0 '62.

1. Instytut Fizyki Jadrowej, Krakow.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530008-0"

L 45422-66

ACC NR: AP6026377 (A) SOURCE CODE: GE/0030/66/015/001/0119/0122

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34
B

AUTHOR: Dimitrijevic, A.; Krasnicki, S.; Rzany, H.; Todorovic, J.; Wanic, A.

ORG: [Dimitrijevic; Todorovic] Institute of Nuclear Sciences "Boris Kidric", Vinca; [Krasnicki; Wanic] Institute of Nuclear Physics, Cracow

TITLE: Neutron investigation of temperature effect in the magnon spectrum of magnetite

SOURCE: Physica status solidi, v. 15, no. 1, 1966, 119-122

TOPIC TAGS: neutron beam, temperature characteristic, magnetite, magnon specturm

ABSTRACT: The diffuse magnon scattering peaks connected with $\tau = (111)$ in magnetite were examined at a number of temperatures using neutrons with $\lambda = 1.314$ Å. The decrease in magnon energies at elevated temperatures was observed and compared with the theory of Mills et al. (R. E. Mills, R. P. Kenan, and F. J. Milford, Phys. Letters (Netherlands) 12, 173 (1964). A pronounced temperature-dependent asymmetry of the magnon low-energy peak was found. The

Card 1/2

work was done in Vinca using the RA reactor and the Cracow Neutron Spectrometer. The authors thank Dr. T. Riste for supplying the magnetite single crystal. They thank Dr. R. E. Mills for a detailed copy of the formulas obtained by him and his coworkers, and thank Mr. S. Radenkovic for the construction of the sample heater. Orig. art. has: 5 figures. [Based on authors' abstract] [KS]

SUB CODE: 20/ SUBM DATE: 02Feb66/ OTH REF: 009/

hs

POLAND/Atomic and Molecular Physics - Physics of the Molecule D-2

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 692

Author : Budzanowski, A., Grotowski, K., Janik, J.A., Maniawski, F., Rzany, H., Szkatula, A., Wanic, A.

Inst : -

Title : Estimation of the Potential Barrier Height of Torsional Rotations in CH SH Molecules by Means of Slow-Neutron Scattering.

Orig Pub : Bull. Acad. polon. sci., 1957, Cl. 3, 5, No 3, 295-297

Abstract : No abstract.

Card 1/1

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530008-0"

R ZANY

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Theoretical calculation of the slow neutron scattering cross section of ethylene. I. A. Janik, F. Maniawski, and H. Rzany (Inst. Nuclear Research, Krakow). *Acta Phys. Polon.* 17, 489-90 (1958) (in English).—The theory of Krieger and Nelkin (*C.A.* 51, 17419*b*) has been applied to the computation of slow neutron scattering cross sections of C_2H_4 mols. The theoretical results obtained are compared with exptl. results of the C_2H_4 mol. obtained by Melkonian (*C.A.* 44, 1816*a*). A very good agreement has been found within the energy range of 0.005 to 0.07 e.v. Sylvia Nowinska

20568

P/046/60/005/007/007/007
D238/D304

26.2242

AUTHORS: Janik, Jerzy A., Janik, Janina, Krašnicki, Szczęsny, Kaniawski, Franciszek, Murasik, Andrzej, Rtany, Henryk, Szkatuła, Antoni, Ściesiński, Jan, and Wanic, Adam

TITLE: On the scattering of thermal neutrons in molecules containing hydrogen

PERIODICAL: Nukleonika, v. 5, no. 7-8, 1960, 495 - 499

TEXT: Investigations carried out in this field can be divided into the following areas: 1) Verification of the neutron scattering theory by molecules of molecular gases. 2) Examination of the structure of liquids by determining how far the active cross sections obtained experimentally differ from neutron scattering derived from theory. 3) Neutron scattering on polarized molecules. 4) Neutron scattering by molecules which show an oscillation level in the region of thermal energy. After mentioning the T.I. Krieger- M.S.

Card 1/8

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D238/D304

On the scattering of ...

Nelin formula for the active cross section of neutron scattering in an atom of a molecule as a function of the sample temperature, the geometric molecular structure and the neutron energy, the authors indicate the exhaustive calculations of Krieger and Nelkin -- to prove their theory -- for the molecules CH_4 and H_2 and which established their agreement with E. Nelkonian's experimentally obtained data in the field of energy. Similar calculations have been carried out in the Cracow Center for the molecule C_2H_4, and the results compared with measurements made by Nelkonian; as a result, an identical agreement has been established between experiments and theory (Ref. 3: J.A. Janik, P. Waniewski, and H. Rżany: Acta Phys. Polon. 17, 489, 1958). In addition measurements have been made in the EWA-reactor with gas molecules of NH_3 (Fig. 2); in these an aluminum crystal was employed as neutron monochromator. Results obtained in this way conform fully with the Krieger-Nelkin theory (Ref. 4: J.A. Janik, J. Janik, and A. Wanic: Physica 26, 449, 1960).

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On the scattering of ...

Fig. 2. Active cross-section of neutron scattering of NH_3 molecules as a function of neutron energy. o - experiments for gaseous NH_3; e - experiments for liquid NH_3. Curve calculated on the basis of the Krieger - Nelin theory for gaseous NH_3.

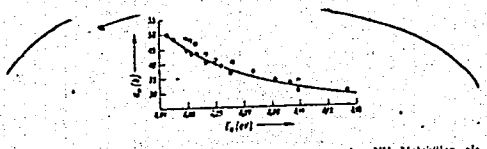

Abb. 2. Wirkungsquerschnitt auf die Neutronenstreuung der NH_3-Moleküllen als Funktion der Energie der Neutronen. o — Experimente für den gasförmigen NH_3; e — Experimente für den flüssigen NH_3. Kurve berechnet auf Grund der Theorie von Krieger und Nelkin für dem gasförmigen NH_3

Card 3/ 8

On the scattering of ...

The results obtained by Melkonian on neutron scattering by water in a liquid state were compared with the Krieger-Nelkin theory for gaseous H_2O. Measurements of neutron scattering in NH_3 and H_2S were also carried out with the use of crystal monochromators (Ref. 5: A. Wanic: Acta Phys. Polon. 18, 255, 1959). The results obtained show a systematic increase of the active cross section as one passes from gases to liquids. These experimental facts can also be interpreted as answering the question, to what extent free molecular rotation is impossible in the fluid state. In the case of liquid water and ammonia, this determination is in agreement with the well known fact that the association in these liquids through hydrogen bonding is strengthened. In liquid hydrogen sulphide, for which there are inadequate physico-chemical data on hydrogen bonding evidence, the impossibility of free rotation is caused perhaps by a strong molecular packing. At the Cracow Center for Nuclear Physics, measurements have been made of the influence of molecular polarization, in which an easily polarizable liquid (in a crystal-fluid

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On the scattering of ...

Fig. 4.

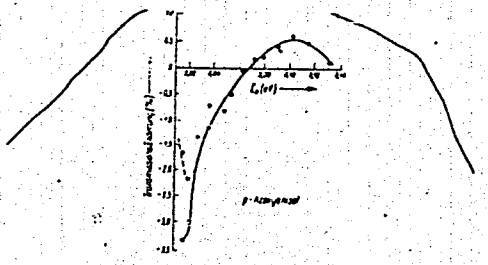

Abb 4. Transmissionsänderung der Neutronen als Funktion der Energie der Neutronen für den kristallflüssigen p-Azoxyanisol bei dem Übergang von polarisiertem zu unpolarisiertem Zustand
● — Experimentale Ergebnisse; o — nach der Korektur fü die Streuung der zweiten Ordnung

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Fig. 4. (cont'd) Alteration of transmission of neutrons as a function of energy of the neutrons for liquid crystal para-azoxyanisol when passing from polarized to unpolarized state. • - experimental results; o - after correction for scattering of the second order.

state), namely so-called P-Azoxyanizol has been used in the magnetic field. (Ref. 6: J. Janik, S. Krahnicki, and A. Kurnoik: Acta Phys. Polon. 17, 483, 1958). The results of initial measurements have already been published (Ref. 6: Op.cit.) and further measurements are in progress. The main results are presented in Fig. 4. Experimental points and the curves drawn through them represent the percentage alteration in test transmission due to polarization of its molecules by a magnetic field, in relation to the decrease of polarization. This change is, as can be seen, a function of the energy of neutrons and indeed causes the neutron polarization of the sample; in the case of low energies a lowering and in the case of high energies a rise of neutron transmission occurs. This rela-

tionship can be explained to a semiquantitative degree on the basis of the Krieger-Nelkin theory; it is necessary to assume here that the CH_3 groups at the end of the p-azoxyanisol molecule carry out a restricted rotational movement about the co-axis, while on the other hand the whole molecule carries out free rotation about the longitudinal axis. Where molecules have an oscillatory level in the energy region, one should expect a local maximum of the relationship between active cross sections and neutron scattering of the energy of these neutrons. This maximum should appear for the particular neutron energy which is necessary to create this oscillation level. Measurements have been made for liquid CH_3SH and, in fact, a local maximum of active cross section has been obtained where the level of oscillation of the internal restricted rotation was located. Measurements for gaseous CH_3SH are in progress; it can be already stated that in gaseous methylmercaptan there are two further local maxima in the vicinity of restricted rotation which could be shown as proof of the existence of levels of restricted rotation.

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D238/D304

On the scattering of ...

This research was carried out in the EWA-reactor in Świerk with the aid of a slow chopper built by the Cracow Center for Nuclear Physics. There are 4 figures and 6 references: 4 Soviet-bloc and 2 non-Soviet-bloc. [Abstractor's note: This article is written in German].

ASSOCIATION: Polnische Akademie der Wissenschaften, Institut für Kernforschung, Warszawa;
Neutronenlaboratorium des Krakauer Zentrums für Kernphysik (Polish Academy of Sciences, Warsaw Institute of Nuclear Research;
Neutron Laboratory of the Cracow Center for Nuclear Physics)

SUBMITTED: May 9, 1960

Card 8/8

JANIK, Jerzy A.; JANIK, Janina; KRASNICKI, Szczesny; MANIAWSKI, Franciszek; MURASIK, Andrzej; RZANY, Henryk; SZKATULA, Antoni; SCIESINSKI, Jan; WANIC, Adam

On the scattering of slow neutrons in molecules containing hydrogen. Nukleonika 5 no.7-8:495-500 '60.

1. Polnische Akademie der Wissenshaften, Institut der Kernforschung, Warszawa, Nuetronenlaboratorium des Krakauer Zentrums fur Kernphysik.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530008-0"

B-4

COUNTRY : Poland
CATEGORY : Physical Chemistry--Molecule. Chemical bond.

ABS. JOUR. : RZKhim., No. 21 1959, No. 73808

AUTHOR : Janik, J.A., Maniawski, F., and Rzany, H.
INST. : Not given
TITLE : Theoretical Calculation of the Slow Neutron Scattering Cross Section of Ethylene Molecules

ORIG. PUB. : Acta Phys Polon, 17, No 6, 489-490 (1958)

ABSTRACT : A previously described (RZhFiz, 1958, No 8, 17603) method was used in calculating the slow neutron scattering cross section of the C_2H_4 molecule. In the energy range 0.005-0.07 ev the calculated and known experimental cross sections coincide. For energies below [sic] 0.07 ev (ca 560 cm^{-1}) the calculated cross sections are smaller than the experimental cross sections. A possible explanation of the divergences observed may lie in the fact that inelastic

CARD: 1/2

B-4

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3591.

Author : A. Budzanowski, K. Grotowski, J. A. Janik, F. Maniavski, H. Rzany, A. Szkatula, A. Wanic.
Inst : Academy of Sciences of Poland.
Title : Estimation of the Potential Barrier Height of Torsional Rotation in CH SH Molecules by Means of Slow Neutron Scattering.

Orig Pub: Bull. Acad. polon. sci.,1957, Cl. 3, 5, No 3, 295-297.

Abstract: An estimation of the potential barrier height of internal torsional rotation V_0 of the methyl mercaptan molecule CH_3SH was carried out by the method of thermal neutron scattering. The neutron source was 100 curie of Ra mixed wthh Be according to the reaction (α, N). The effective crossection for the CH SH Molecule ($\sigma_{CH_3SH} = 194.1 \pm 5$ barn), determined by the method of relative beam attenuation, was measured. Water was used as the standard liquid ($\sigma_{H_2O} \sim 91$ barn). The effective

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530008-0"

Abs Jour ; Referat. Zhurnal Khimiya, No 2, 1958, 3591

cross section for the rigid CH SH molecule computed basing on Sachs and Teller theory $\sigma_{rig.} \simeq 258$ barn. Based on Koslos theory (in which the effective cross section is a function of the potential barrier height V), it was established that σ CH_3SH = 194.1 barn and the potential barrier height V_0 - about 1000 kal per mole for the measured cross section. Sucha height agrees with results obtained by the methods of microwave spectroscopy, but disagrees with data obtained by the thermodynamic methods.

Distr: 4E2c(j)/4E3d 7

A rapid method of acenaphthene determination [in pure and technical product]. Jan Juriewicz, Józef Jaszczur, Anna Orzechowska, and Józef Rzasa (Zakład Przerobu Węglopochodnych Inst. Chem. Przeróbki Węgla, Zabrze, Poland). *Chem. Anal.* (Warsaw) 3, 147–56 (1958) (English summary).—A method of acenaphthene (I) detn. in pure or tech. product, based on the relation between I content and its m. or f. points, is described. Two formulas are derived: $P = 1.4 \cdot t_m - 33$ and $P = 1.5 \cdot t_f - 42.5$ where P = I content in %, t_m and t_f = the m.ps. and f.ps. of the samples. The formulas were valid for mixts. contg. I 50–100%. Error of the detns. was 0.15 to ±1%. The detn. time was not above 20 min. The method can be applicable in plant labs. for det. I in coal-tar products. The results of I detns. by the picrate method and the method described were compared for 54 samples contg. variable amts. of I. M.ps. were detd. in the Thiele tube, f.ps. with the aid of the Zhukov tube. The latter detns. were made on the basis of Polish Standard PN/C-04018. Z. Kurtyka

7
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RZASA, Stanislaw

Genesis and evolution of mineral muck soils in an area being drained. Roczniki wyz szkola rol Poznan 18 151-223 '63.

1. Department of Soil Science, College of Agriculture, Poznan.

BENDER, Jan; KASA, Stanislaw

Alfalfa and red clover as factors effecting changes in the compactness of sandy and clayey soils. Prace nauk roln i lesn 18 no.3:171-191 '64.

1. Department of General Soil Tillage and Plant Cultivation and Department of Soil Science, College of Agriculture, Poznan.

BENDER, Jan; RZASA, Stanislaw

Dynamics of soil compactness under certain cultivated plants. Prace nauk roln i lesn 14 no,3:357-381 '63. [publ. '64].

1. Department of General Soil Tillage and Plant Cultivation and Department of Soil Science, College of Agriculture, Poznan.

RZASA, Stanislaw

Research methods on the application of the pneumatic soil resistance meter. Prace nauk roln i lesn 12 no.3:99-112 '62.

1. Chair of Science of Soils, Higher School of Agriculture, Poznan.

R-314-60/14

46

PHASE I BOOK EXPLOITATION SOV/6195

Nauchnaya konferentsiya institutov khimii Akademiy nauk Azerbaydshanskoy, Armyanskoy i Gruzinskoy SSR. Yerevan, 1957.

Materialy nauchnoy konferentsii institutov khimii Akademiy nauk Azerbaydzhanskoy, Armyanskoy i Gruzinskoy SSR (Materials of the Scientific Conference of the Chemical Institutes of the Academies of Sciences of the Azerbaydzhan, Armenian, and Georgian SSR) Yerevan, Izd-vo AN Armyanskoy SSR, 1962. 396 p. 1100 copies printed.

Sponsoring Agency: Akademiya nauk Armyanskoy SSR. Institut organicheskoy khimii.

Resp. Ed.: L. Ye. Ter-Minasyan; Ed. of Publishing House: A. G. Sikuni; Tech. Ed.: G. S. Sarkisyan.

PURPOSE: This book is intended for chemists and chemical engineers, and may be useful to graduate students engaged in chemical research.

COVERAGE: The book contains the results of research in physical, inorganic, organic, and analytical chemistry, and in chemical engineering, presented at the Scientific Conference held in Yerevan, 20 through 23 November 1957. Three reports of particular interest are reviewed below. No personalities are mentioned. References accompany individual articles.

An industrial method of synthesizing organosilicon compounds

MAMEDOV, Shamkhal; POKONOVA, Yu.; RZAYEV, A.

Glycol ethers and their derivatives. Part 54: Alkoxymethyl ethers of 2,3-butanediol. Zhur.ob.khim. 33 no.4:1166-1171 Ap '63. (MIRA 16:5)

1. Institut neftekhimicheskikh protsessov AN AzerbSSR.
(Butanediol) (Ethers)

MAMEDOV, Shamkhal; RZAYEV, A.

Synthesis of alkyl β-chloroethyl ethers of methylene glycol.
Azerb.khim.zhur. no.5:47-56 '60. (MIRA 14:8)
(Methanediol)

MAMEDOV, Sh.A.; RZAYEV, A.S.

Synthesis and study of alkoxy, 3-chloro-butene-2-oxymethane.
Azerb.khim.zhur. no.6:83-90 '60. (MIRA 14:8)
(Methanediol) (Ether)

ACC NR: AP7005259 SOURCE CODE: UR/0423/66/000/010/

AUTHORS: Agayeva, F. M.; Alikishibekova, T. M.; Kolomiytsev, V. S.; Rzayev, A. I.

ORG: Azerbaidzhan Scientific Research Institute of Power Engineering im. I. G. Yes'man (Azerbaydzhanskiy nauchno-issledovatel'skiy institut energetiki) .

TITLE: Investigation of a plasmatron with an air-stabilized electric arc

SOURCE: Za tekhnicheskiy progress, no. 10, 1966, 17-19

TOPIC TAGS: plasma jet, high temperature plasma, plasma generator, nitrogen oxide / UVT-300 plasma generator

ABSTRACT: Investigation of an air-stabilized electric arc plasmatron is reported. The generator is used to obtain nitrogen oxides in a plasma jet on a unit UVT-300, built at the Azerbaidzhan Scientific Research Institute, and designed for high temperature studies in plasma chemistry. The diagram of the plasmatron is shown in Fig. 1. The anode (a cylindrical jet 130 mm long and 10 mm in diameter) and the hollow cathode (75 mm long and 14 mm in diameter) are made of copper. The gaseous ring of the ring chamber, made of zirconium dioxide, has 6 tangential openings, 5.5 mm in diameter, for the passage of the air into the arc canal. The parameters investigated were: volt-amperometric characteristics, efficiency of the plasmatron, and the temperature of the plasma jet. It was established that: 1) increased flow rate of the air results in increased voltage of the arc at constant amperage; 2) with increased power, the efficiency of the plasmatron

UDC: 621.387.143.001.5

1/2

RZAYEV, A.S.; GRIGORYAN, N.A.

Directional well drilling with great deflections. Azerb.neft. khoz. 35 no.10:7-9 O '56. (MLRA 10:1)
(Oil well drilling)

15.8600
~~5 (1), 5 (2)~~

67787
S/064/59/000/07/007/035
B005/B123

AUTHORS: Mamedov, Sh. A., Rzayev, A. S., Nizker, I. L.

TITLE: The New Plasticizer ANAZ [15]

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 7, pp 580 - 582 (USSR)

ABSTRACT: In the present paper the manufacture and qualities of the new plasticizer ANAZ (abbreviation for AN Azerbaydzhanskoy SSR (AS of the Azerbaydzhanskaya SSR)), are discussed. This plasticizer which was for the first time produced in 1949-1950, consists of glycol esters of naphthenic acids and is especially suitable for plasticizing colloxylin. In the beginning the strong odor of this plasticizer - caused by the content of crude naphthenic acids - prevented its being used to a larger extent. This odor can, however, be removed by a vacuum distillation of the naphthenic acid mixture used for synthesis, or of the ready product (Ref 3). In a table the most important physicochemical qualities of ANAZ (molecular weight, boiling point, freezing point, ignition point, d_4^{20}, refraction index at 20°, saponification number, content of volatile ingredients when heated to

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The New Plasticizer ANAZ

S/064/59/000/07/007/035
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100° for 6 hours) are compared to qualities of other popular plasticizers. ANAZ is a pale yellow, nearly odorless oily liquid. For the production of 1 mol of this plasticizer one needs 1.1 mol of the naphthenic acid mixture, 0.15 mol of sodium hydroxide and 0.2 mol of dichloroethane. For the esterification of the acid mixture distilled in vacuum, it is neutralized at 120-160° with solid sodium hydroxide. The water produced is distilled off. The temperature is then increased to 180°. At this temperature dichloroethane vapors are led through the mixture while mixing it thoroughly. The melted sodium salts of the naphthenic acids react with the dichloroethane according to the following scheme:

$$\begin{matrix} RCOONa \\ RCOONa \end{matrix} + \begin{matrix} ClCH_2 \\ | \\ ClCH_2 \end{matrix} \longrightarrow 2\ NaCl + \begin{matrix} RCOOCH_2 \\ | \\ RCOOCH_2 \end{matrix} .$$

After cooling off the reaction mixture to 50-40°, water is added. The addition of water causes the precipitation of sodium chloride in crystalline form which deposits readily. The ester is decanted and distilled in a vacuum. With a pressure of 2 torr up to 170-180°, the excess naphthenic acids are distilled off,

while the glycol esters of the naphthenic acids are distilled off at 180-210°, which are already the ready product. The first runnings are once more esterified. The yield of the plasticizer amounts to 70-80%, compared to the used naphthenic acid mixture. Production costs of ANAZ are comparatively low. The new plasticizer was tested in the dermatino-kleyenochnaya fabrika im. Nogina (Dermatin Oil Cloth Works imeni Nogin) in Kuntsevo for the production of dermatin and nitrolinoleum. Results satisfy technical demands. Moreover, ANAZ was successfully used instead of tricresylphosphate as a plasticizer for enamels of the type PKhV, and instead of ricinus oil for the production of nitro dyes in GIPI-4 (State Design and Planning Scientific Research Institute of Varnish and Paint Industry). It was found that coatings containing ANAZ can be cooled off to -50° without any loss of stability. In NII rezinovoy promyshlennosti (Scientific Research Institute of Rubber Industry) good results were achieved with the new plasticizer. There are 1 figure, 1 table, and 6 references, 5 of which are Soviet.

RZAYEV, A.S.; GRIGORYAN, N.A.

Using small diameter turbodrills for sinking directional wells.
Azerb. neft. khoz. 39 no.10:12-15 O '60. (MIRA 13:11)
(Turbodrills)

RZAYEV, A.S.; AVANESOV, A.A.

Effectiveness of using diamond bits in the Zyrya oil field.
Burenie no.9:3-5 '65. (MIRA 18:10)

1. Neftepromyslovoye upravleniye "Azizbekovneft'".

MAMEDOV, Shamkhal; KAFAROVA, S.M.; RZAYEV, A.S.; AVANESYAN, M.A.

Glycol ethers and their derivatives. Azerb. khim. zhur. no.1:45-49 '65. (MIRA 18:7)

1. Institut neftekhimicheskikh protsessov AN AzerSSR.

MAMEDOV, Shamkhal; GADZHIYEV, F.R.; RZAYEV, A.S.

Glycol ethers and their derivatives. Azerb. khim. zhur. no.3: 75-82 '64. (MIRA 18:5)

MAMEDOV, Shamkhal; RZAYEV, A.S.

Glycol ethers and their derivatives. Part 63: Synthesis of alkoxymethyl ethers of glycerol α-monochlorohydrin. Zhur.ob.khim. 33 no. 12:3842-3846 D '63. (MIRA 17:3)

1. Institut neftekhimicheskikh protsessov AN Azerbaydzhanskoy SSR.

MAMEDOV, Shamkhal; RZAYEV, A.S.; NIZKER, I.L.

Synthesis of new plasticizers on the basis of naphthenic acids of kerosine fractions. Neftekhimiia 2 no.5:788-792 S-O '62. (MIRA 16:1)

1. Institut neftekhimicheskikh protsessov AN AzSSR.
(Plasticizers) (Naphthenic acids)

MAMEDOV, Shamkhal; NIZKER, I.L.; RZAIEV, A.S.

Alcoholless method of producing esters. Dokl.AN Azerb.SSR 17 no.9:789-791 '61. (MIRA 15:3)

1. Institut neftekhimicheskikh protsessov AN AzSSR. Predstavleno akademikom AN AzSSR M.A.Dalinym.

(Esters)

S/204/62/002/005/006/007
E075/E136

AUTHORS: Mamedov, Shamkhal, Rzayev, A.S., and Nizker, I.L.

TITLE: Synthesis of new plasticizers from kerosene naphthenic acids

PERIODICAL: Neftekhimiya, v.2, no.5, 1962, 788-792

TEXT: A search for new methods of producing cheap, high quality plasticizers led to the utilization of naphthenic acids as the raw material. The new plasticizers were obtained as follows:

$$\begin{matrix} CH_2Cl \\ + \\ CH_2Cl \end{matrix} \quad \begin{matrix} NaOOCR \\ \\ NaOOCR \end{matrix} \longrightarrow \begin{matrix} CH_2OOCR \\ \\ CH_2OOCR \end{matrix} + 2NaCl$$

where R - naphthenic radical (mol.wt 140-160). Individual fractions of the acids (kerosene naphthenic acids: 55-60% fraction, 110 to 140 °C - acid value ~300; 25-30% fraction, 140 to 160 °C - acid value ~ 270-280) were neutralised with solid NaOH at 50-100 °C. Dichloroethane was introduced at 170-190 °C, the reaction being continued for 6-8 hours. The products were

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distilled under 1 mm Hg. The fraction boiling between 200 and 240 °C (yield 76%) constituted the new plasticizer named "AHA3" (ANAZ). The plasticizer has negligible volatility (0.044-0.9% at 100 °C), good light resistance, low freezing temperature (-40 to -65 °C) and good compatibility with plastics (does not sweat out from plastic films) and their solvents. It is insoluble in water, stable to heat and cold and non-poisonous. "ANAZ" (5-7%) successfully replaces dibutylphthalate in collodion cotton and butadiene-nitrile rubber and castor oil in dermateen. It also replaces satisfactorily tricresylphosphate in perchlorvinyl enamels.
There are 3 tables.

ASSOCIATION: Institut neftekhimicheskikh protsessov AN AzSSR
(Institute of Petrochemical Processes, AS Az.SSR)

SUBMITTED: March 31, 1962

MAMEDOV, Shamkhal; RZAYEV, A.S.

Glycol ethers and their derivatives. Part 37: Synthesis of alkyl-β-chloroethyl and alkyl-β-alkoxyethyl ethers of methylene glycol. Zhur. ob. khim. 31 no. 11:3561-3568 N '61. (MIRA 14:11)

1. Institut neftekhimicheskikh protsessov AN Azerbaydzhanskoy SSR.
(Glycols) (Ethers)

POLAND / Analytical Chemistry--Analysis of organic substances.

Abs Jour : Referat Zhur--Khimiya, No. 11, 1959, 38377

Author : Jurkiewicz, J.; Janczur, J.; Orzechowska, A.; and Rzasa, J.

Inst : Not given

Title : A Rapid Method for the Determination of Acenaphthene.

Orig Pub : Chem Analit, 3, No. 2, 147-157 (1958) (in Polish with an English summary)

Abstract : The authors describe methods for the quantitative determination of acenaphthene (I) in technical products. When the I content exceeds 40%, about 1 gm of sample dried at 60° for 6 hrs is dissolved with heating in 15 ml of 95% alcohol and the solution is heated to boiling with a

MAMEDOV, Shakhmal; ~~GUSEYEV~~, A.

Synthesis and analysis of alkyl β-ethoxyethyl esters of methylene glycol. Dokl. An Azerb. SSR 16 no. 12:1171-1175 '60. (MIRA 14:2)

1. Institut neftekhimicheskikh protsessov AN AzerSSR. Predstavleno akademikom AN AzerSSR M.F. Nagiyevym.
(Methanediamine)

RZAYEV, CH. A.

"Postnatal Period of Sheep." Thesis for degree of Card. Veterinary Sci., Sub 21 Oct 49, Moscow Veterinary Academy.

Summary 82, 18 Dec 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva. Jan-Dec 1949.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530008-0"

RZAYEV, Ch. A.

RZAEV, Ch. A.

Azerbaidzhan Agric. Inst. named after L. P. Beriya

"Post-natal involution of sex organs in sheep."

SO: Veterinariya 27(3), 1950, p. 54

"Clinical methods for determination of pregnancy of agricultural animals"
Baku. Azernsher, 1951. 27 pages with illustrations. IN AZERBAIDZHAN-IAN.

SO: Vet., March 1952, Unclassified.

RZAYEV, CH. A.

Veterinary Medicine

Around the Soviet Union. Veterinariya 29 No. 8 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

4705 Rzayev, Ch. A. Besplodiye sel'skokhozyaystvennykh zhivotnykh i mery bor'by snim. baku, azerneshr, 1954, 52s. 20 sm, 4000 ekz. 66k-na azerbaydzh. yaz-(54-57099) 636.082.454

SO: Letopis' Zhurnal nykh Statey, Vol. 7, 1949

RZAYEV, E. A., Cand Agr Sci -- (diss) " Fattening Properties and Meat Productiveness of the Azerbaydzhan Zebu." Kirovabad, 1957. 26 pp (Min of Agriculture of Azerbaydzhan SSR, Azerbaydzhan Agricultural Inst), 100 copies (KL, 51-57, 93)

USSR / Farm Animals: Cattle. Q-2

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 64417

Author : Rzayev, E. A.; Nadzhafov, N. A.; Guseynov, R. A.
Inst : Not given
Title : The Milkiness and Fat Content in the Milk of the Zebu Cattle of Azerbaydzhan.

Orig Pub : Zhivotnovodstvo, 1957, No 8, 76-77

Abstract : Under extensive conditions of individual farming, the Azerbaydzhan Zebu produced an average of 470 liters of milk, with a fat content of 4.15%. The experiments carried out in 5 kolkhozes showed that with the improvement of feeding without concentrates (supplementation of feeding during the autumn-winter period by hay, rice, straw and corn silage, and in the summer by grass and vegetable waste), the milk production of the Azerbaydzhan Zebu considerably increased. In 1954, 80 Zebu cows produced an average of 514 kg. each;

RUSTAMHEKOV, M.R.; RZAIEV, G.R.

Effect of microelements on the dynamics of nitrogen compounds in soybeans under various conditions of moisture supply. Izv. AN Azerb. SSR. Ser. biol. nauk no.6:11-17 '64.

(MIRA 18:6)

GUSEYNOV, B.Z.; RZAYEV, G.A.

Study of the effect of [illegible] elements on the increase in yield and feeding value of [illegible] under irrigated conditions. Izv. AN Azerb.SSR.Ser.biol. nauk no.5:19-24 '64. (MIRA 18:4)

RZAYEV, G.A.

Effect of trace elements on carotene accumulation in forage plants.
Izv.AN Azerb.SSR.Ser.biol.i med.nauk 3:23-28 '61. (MIRA 14:7)
(Carotene) (Apsheron Peninsula--Forage plants--Fertilizers and manures)
(Trace elements)

RZAYEV, G.A., kand. biolog. nauk

Petroleum growth promoting substance. Priroda 52 no.9: 97-98 '63. (MIRA 16:11)

1. Otdeleniye sel'skokhozyaystvennykh nauk AN AzerSSR, Baku.

RUSTAMBEKOV, M.R.; RZAYEV, G.A.

Effect of trace elements on the carbohydrate and protein metabolism of oats under different moisture conditions. Izv. AN Azerb. SSR. Ser. biol. i med. nauk no.4:3-12 '61. (MIRA 14:7)

(OATS--WATER REQUIREMENTS)
(TRACE ELEMENTS)

RZAYEV, G. A.: Master Biol Sci (diss) -- "The effect of boron and manganese on the water balance, metabolism, growth, and development of certain fodder crops". Baku, 1958, published by the Acad Sci Azerb SSR. 24 pp (Min Higher Educ USSR, Azerb State U im S. M. Kirov), 150 copies (KL, No 7, 1959, 123)

RUSTAMBEKOV, M.R.; RZAYEV, G.A.

Effect of trace elements on carbohydrate and protein metabolism in forage plants. Izv. AN Azerb. SSR. Ser. biol. i med.nauk no.9: 17-23 '61. (MIRA 14:12)

(APSHERON PENINSULA--VETCH) (TRACE ELEMENTS)
(PLANTS--METABOLISM)

RZAYEV, G.A.

Effect of boron and manganese on the growth, development and water regimen of some forage grasses. Trudy Inst.bot.AN Azerb.SSR 21:45-74 '59. (MIRA 13:3)

(Forage plants--Fertilizers and manures)
(Plants, Effect of boron on)
(Plants, Effect of manganese on)

AGAYEV, Yu.M.; KULIYEV, S.M.; RZAYEV, G.A.

Replacing cover glasses with photographic and motion-picture film.
Est. v shkole no.5:82 S-O '56. (MLRA 9:10)

1. Azerbaydzhanskiy sel'skokhozyaystvennyy institut.
(MICROSCOPY--TECHNIQUE)

TUTAYUK, V.Kh.; RZAYEV, G.A.

Anatomicomorphological study of almond stones with a fragile shell. Izv.AN Azerb.SSR.Ser.biol.i med.nauk no.1:3-14 '61. (MIRA 14:6)
(Almond)

RZAYEV, G.M., kand.med.nauk

Treatment of myocardial infarction. Azerb.med.zhur. no.3:73-76 Mr '59. (MIRA 12:6)

1. Iz kafedry gospital'noy terapii II Moskovskogo meditsinskogo instituta (zav. - prof.P.Ye.Lukomskiy) i kafedry gospital'noy terapii II Azerbaydzhanskogo gosudarstvennogo meditsinskogo instituta im. N.Narimanova (zav. - zasluzh.deyatel'nauki, prof. D.M.Abdullayev).

(HEART--INFARCTION)

RZAYEV, G.M., kand.med.nauk

Disorders of blood circulation in myocardial infarct. Azerb. med.zhur. no.6:80-85 Je '58 (MIRA 11:7)

1. Iz gospital'noy terapvticheskoy kliniki (zav. - prof. P.Ye. Lukomskiy) lechebnogo fakul'teta II Moskovskogo meditsinskogo instituta im. N.I. Pirogova.
(BLOOD--CIRCULATION, DISORDERS OF)
(HEART--INFARCTION)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530008-0"

USSR/Human and Animal Physiology - Blood Circulation.

Abs Jour : Ref Zhur - Biol., No 7, 1958, 31667

Author : Bobkova, V.I., Rzayev, G.M., Solov'yev, V.V.

Inst : -

Title : Determination of the Rate of Blood Flow by Means of Radioactive Sodium.

Orig Pub : Sov. medintsina, 1956, No 8, 66-70.

Abstract : In 190 patients, the time of blood circulation (TB) from the elbow bend of one arm to the other was determined in RS-T after the introduction into the ulnar vein of 70 curies of radioactive Na. In healthy persons, TB varied an average of 13 seconds; for defects of the heart with insufficiency of blood circulation of I degree 14.3; with insufficiency of II degree 21.3; of III degree - 25.5 seconds. In patients with cardiosclerosis, 14-29.6 seconds. In patients with infarct of myocardium, TB was

BOBKOVA, V.I.; RZAYEV, G.M.; SOLOV'YEV, V.V.

Determination of blood flow rate with radioactive sodium. Sov.med. 20 no.8:66-70 Ag '56. (MLRA 9:10)

1. Iz gospital'noy terapevticheskoy kliniki (dir. - prof. P.Ye. Lukomskiy) II Moskovskogo meditsinskogo instituta imeni I.V.Stalina
(SODIUM, radioactive
in determ. of blood flow rate)
(BLOOD CIRCULATION, determ.
flow rate determ. with radioactive sodium)

ACC NR: AP7000003 (N) SOURCE CODE: UR/0070/66/011/006/0929/0931

AUTHOR: Khalilov, Kh. M.; Rzayev, K. I.

ORG: Institute of Physics AN AzerbSSR (Institut fiziki AN AzerbSSR)

TITLE: Preparation of gallium selenide monocrystal and determination of its elastic constants

SOURCE: Kristallografiya, v. 11, no. 6, 1966, 929-931

TOPIC TAGS: gallium compound, selenium compound, single crystal growth, semiconductor single crystal, crystal anisotropy, laboratory furnace, ultrasonic wave propagation, elasticity

ABSTRACT: The elastic constants of a GaSe monocrystal grown in a specially designed furnace were determined. The GaSe was synthesized in a sealed ampoule which was vibrated while temperature was held at 1050°C, and then cooled slowly to room temperature. The monocrystal was grown in the ampoule using an arrangement in which the desired even temperature was maintained by rotating the furnace. The furnace could also be moved vertically with respect to the ampoule at selected speeds. Temperature in the upper part of the furnace was 1050°, and less in the lower part. At the start, to keep the ampoule from cracking, the furnace was moved down at 6 m/sec until the ampoule was in the 1050° zone; the furnace was then raised at 10 mm/sec.

 UDC: 548.0:534.22

This process was repeated 7 times to obtain a perfect GaSe monocrystal. The velocity v_l and v_t of longitudinal and transverse ultrasonic waves in the crystal was measured at a frequency of 1.67 Mc. Values for v_l and v_t along the basal plane were almost twice those perpendicular to the basal plane, indicating anisotropy. The temperature dependence of v_l and v_t of ultrasonic waves along the basal plane was measured; these values decrease continuously with increase in temperature from -60 to 400°C: $\Delta v_l / t = 0.82$ m/sec. degree, $\Delta v_t / \Delta t = 0.67$ m/sec. degree. The hexagonal GaSe crystal belongs to the space group C_{3h} - $P\bar{6}$. The elastic constants (in dynes/cm^2): $C_{11} = 10.24 \times 10^{11}$; $C_{66} = 3.50 \times 10^{11}$; $C_{33} = 3.07 \times 10^{11}$; $C_{55} = 0.70 \times 10^{11}$; $C_{12} = C_{11} - 2C_{66} = 3.24 \times 10^{11}$. "We sincerely thank F. M. Gashimzad for interest indicated during the completion of this article." Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 05Aug65/ ORIG REF: 002

USSR/Cultivated Plants - Technical, Oleaginous, Sugar-Bearing. L-5

Abs Jour : Ref Zhur - Biologiya, No 16, 25 Aug 1957, 69284

Author : Rzaev, I.
Inst :
Title : The Effect of Timing and Manner of Fertilization on the Yield of Cotton Plants.

Orig Pub : Azerb. sosyalist kend teserrufaty, 1956, No 6, 23-27; Sots. s. kh. Azerbaydzhana, 1956, No 6, 21-25.

Abstract : In experiments of Azerbaydzhan scientific-experimental institute of cotton industry, the highest yield of cotton was obtained by dividing the yearly norm of P (100 kg/hectare P_2O_5 on background of 80 kg/hectare N) into 3 parts: the origigal plowing; into rows while sowing to a depth of 5 to 7 cm lower than the seedbed; and into added nutrient. The introduction of part of P into cultivation before seeding gave no positive results. The most effective manner of added cotton nutrient was

RZAYEV, I. T.: Master Agric Sci (diss) --- "The effect of the times and methods of applying fertilizer on the cotton harvest in Azerbaydzhan". Kirovabad, 1958. 20 pp (Min Agric USSR, Azerb Agric Inst), 130 copies (KL, No 5, 1959, 154)

RZAYEV, Kh.M.; DZHAVANSHIROV, A.B.

Outlook for oil in the light of recent data on the southeastern edge of the Neftechala anticline. Dokl. AN Azerb. SSR 19 no.4:27-30 '63. (MIRA 16:12)

1. Institut geologii AN Azerbaydzhanskoy SSR. Predstavleno akademikom AN Azerbaydzhanskoy SSR M.V.Abramovichem.

Q

USSR/Farm Animals. Silkworm.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 78871.

Author : Rzayev, M.
Inst :
Title : Influence of Different Periods of Rearing the Silkworm on the Productivity of the Mulberry Tree.

Orig Pub: Sots. s. kh. Azerbaydzhana, 1957, No 7, 39-43.

Abstract: Spring fattening of the silkworm on the mulberry tree begins in Azerbaydzhan from the appearance of the 3-5th leaf. The accepted period of the start of fattening is normal for all breeds, but is early for new highly-productive white-cocoon breeds (WB). The experimental fattening of WB "Azad" was carried out on the leaf of the "sykhgestut". It is necessary to begin the fattening of WB with

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Abs Jour: Ref Zhur-Biol., No 17, 1958, 78871.

the mass appearance of the 5th leaf on the growing shoots of the exploited branches of the crown which respond completely to the biological needs of the mulberry tree and the silkworm. -- N. P. Krivosheina.

57-6-11/36

AUTHOR LEKHTINEN, G.N., RZAYEV, M.A., STIL'BANS, L.S.

TITLE Investigation of the Temperature Dependence of Work Function of Some Semimetals
(Issledovaniye temperaturnoy zavisimosti raboty vykhoda nekotorykh polumetallov. Russian)

PERIODICAL Zhurnal Tekhn.Fiz. 1957, Vol 27, Nr 6, pp 1221 - 1228 (U.S.S.R.)

ABSTRACT The authors tried to compare the space- and surface characteristics of semiconductors. For this purpose the dependence of the potential-difference in relation to the metal, the e.m.f. and the electric conductivity on the temperature were measured by means of one and the same sample of the material to be investigated. The carrier concentration was determined at room temperature. The measurements were carried out by means of polycrystal samples with an electron conductivity as well as with samples with a hole conductivity. The investigations showed satisfactory coincidence of the dependence of the work function, the e.m.f. and the electric conductivity on the temperature with the theoretically computed level of the chemical potential $\frac{d\mu}{dT}$ at 150 + 400 ° C. The density of the surface conditions and of the surface charges for screening off the space characteristics of the semiconductors (in the case of a carrier concentration of $10^{18} + 10^{19}$ cm^{-3}) can be assumed as not being sufficient at these temperatures. The density of the surface charge increases,

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GALAVANOV, V.V.; NASLEDOV, D.N.; RZAYEV, M.A.

Inductive properties of InSb diodes. Radiotekh. i elektron. 9 no.3:556-557 Mr '64. (MIRA 17:4)

1. Fiziko-tekhnicheskiy institut im. A.F.Ioffe AN SSSR.

ACCESSION NR: AP4024737 S/0109/64/009/003/0556/0557

AUTHOR: Galavanov, V. V.; Nasledov, D. N.; Rzayev, M. A.

TITLE: Inductivity of InSb diodes

SOURCE: Radiotekhnika i elektronika, v. 9, no. 3, 1964, 556-557

TOPIC TAGS: semiconductor, semiconductor diode, semiconductor diode inductivity, InSb diode, InSb diode inductivity

ABSTRACT: An experimental investigation of the capacitance of alloy p-n junctions in InSb as a function of the positive-bias current is reported. The capacitance was measured in a bridge circuit at 78K. A weak 250-kc signal was applied. It was found that the diode capacitance grows with the forward current up to a certain point; then, the capacitance drops off to zero, at which point the diode exhibits inductive characteristics. The cause of the inductive reaction in the diodes tested has not been clarified as yet. Orig. art. has: 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR (Physico-Technical Institute, AN SSSR)

SUBMITTED: 9 Aug 63

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530008-0

L 6724-65 EWT(l)/EWA(k)/EWT(m)/T/EWP(q)/EWP(b) Pz-6 IJP(c)/AFWL/RAEM(c)/
ASD(a)-5/ESD(dp)/ESD(c)/RAEM(t)- AT/JD S/0032/64/030/010/1230/1232

ACCESSION NR: AP4046469 64 63

AUTHORS: Volkov, A. S.; Galavonov, V. V.; Rzayev, M. A. 21

TITLE: Determining impurity concentrations in the p-layer of p-n junctions

SOURCE: Zavodskaya laboratoriya, v. 30, no. 10, 1964, 1230-1232

TOPIC TAGS: semiconductor device, thermal EMF, temperature dependence

ABSTRACT: The ordinary way to measure impurity (current carrier) concentration in a recrystallized layer is to measure the thermal EMF. This involves errors, however, because of imprecision in measuring temperature gradient and value of the thermal EMF. This imprecision results from the effect of the p-n junction and of the shunting effect of the base material. Since the inversion temperature of the thermal EMF depends on acceptor concentration in a crystal, the authors have devised a means of using this property to measure concentration. The inversion temperature of a test sample is compared with that of a standard p-type specimen having known concentration. The setup is illustrated in Fig. 1 on the Enclosure. Measurements are made under nonsteady conditions, which prevents the thin p-layer from heating all the way through and prevents creation of a tempera-

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